



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,869	03/16/2004	David K. Biegelsen	119098	1573

7590 04/07/2006

OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER
----------

KURR, JASON RICHARD

ART UNIT	PAPER NUMBER
----------	--------------

2615

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/800,869	<b>Applicant(s)</b> BIEGELSEN, DAVID K.	
	<b>Examiner</b> Jason R. Kurr	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/16/04</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2615

## **DETAILED ACTION**

### **¶ 5.03 Reassignment Affecting Application Location**

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit [2615].

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-4 and 19 in the reply filed on January 26, 2006 are acknowledged. The traversal is on the ground(s) that a thorough search for the subject matter of any one Group of claim would encompass a search for the subject matter of the remaining claims, thus examination of the entire application could be made without serious burden. This is not found persuasive because Group I pertains to a method of transmitting audio information with a hypersonic beam classified in class 381 subclass 77. Group II pertains to a method for forming a hypersonic transducer classifies in class 29 subclass 25.35. Group III pertains to a hypersonic transducer utilizing ferroelectric/piezoelectric islands classified in class 310 subclass 328. Group IV pertains to the structure of a hypersonic transducer classified in class 381 subclass 190. The inventions are distinct for the reasons noted in the previous Office Action.

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP j 806.05(9)). In the instant case the process as claimed can be used to make other and materially different product.

Art Unit: 2615

Inventions III and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP 806.05(h)). In the instant case the process for using the product as claimed can be practiced with another materially different product.

Inventions II and IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP j 806.05(9)). In the instant case the process as claimed can be used to make other and materially different product and the product as claimed can be made by another and materially different process.

The requirement is still deemed proper and is therefore made FINAL.

Claims 5-18 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 26, 2006.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Norris (US 5,889,870).

With respect to claim 1, Norris discloses a method for transmitting audio information, comprising: synthesizing a carrier signal (fig.2 #60) and a side band signal (fig.2 #62); encoding the side band signal with the audio information (col.11 ln.8-16); and transmitting the carrier signal and encoded side band signal in a focused hypersonic beam (fig.2 #20, col.15 ln.28-42).

With respect to claim 3, Norris discloses the method of claim 1, further comprising: selecting one or more carrier signals; encoding one side band signal with unique audio information for each of the carrier signals (col.11 ln.8-16); and transmitting the carrier signals and encoded side band signals in one or more focused hypersonic beams, each of the hypersonic beams aimed at a different direction than other one of the hypersonic beams (fig.2, col.15 ln.28-42).

With respect to claim 4, Norris discloses a computer readable medium or a modulated signal (fig.2 #42) being encoded to perform the method of claim 1 in conjunction with a hypersonic transducer (fig.2 #20).

Art Unit: 2615

With respect to claim 19, Norris discloses a hypersonic transducer, comprising: means for synthesizing a carrier signal and a side band signal encoded with audio information (fig.2 #24, col.11 ln.8-16) and means for transmitting the carrier signal and the side band signal in a focused hypersonic beam (fig.2 #20, col.15 ln.28-42).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Norris (US 5,889,870) in view of Norris et al (US 6,850,623 B1).

With respect to claim 2, Norris (US 5,889,870) discloses the method of claim 1, further comprising: generating a plurality of signals (fig.2 #38,42) based on the encoded side band signal and the carrier signal; and generating hypersonic wavelets (fig.2 #30,32), each of the wavelets generated based on one of the signals.

Norris (US 5,889,870) does not disclose expressly wherein the phase relationships are adjusted to form a focused hypersonic beam.

Norris et al (US 6,850,623 B1) discloses a method for transmitting audio information wherein adjusting phase relationships of a plurality of signals forms a focused hypersonic beam (col.4 ln.21-44).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the phase shifting methods of Norris et al (US 6,850,623 B1) in the invention of Norris (US 5,889,870).

The motivation for doing so would have been to increase the maximum audio output, as taught by Norris et al (US 6,850,623 B1) on column 4 lines 26-29. This would allow a user to project the beam containing audio information at longer distances than if the phases were not maximized.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Norris et al (US 6,577,738 B2) discloses a parametric virtual speaker and surround-sound system.

Norris (US 5,859,915) discloses a lighted enhanced bullhorn.

Spencer et al (US 2003/0185405 A1) discloses a modulator processing for a parametric speaker system.

Spencer (US 2005/0152561 A1) discloses a modulator – amplifier.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Kurr whose telephone number is (571) 272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

Art Unit: 2615

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-8300. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JK  
JK

  
VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600